

ABSTRACT

[Abstract]

[Means to solve the problem]

An automatic introduction apparatus for automatically
5 introducing a target celestial object by controlling a
rotation of an astronomical telescope around at least two
axes comprises: an image-capturing means capable of
capturing an image of a celestial object at a plurality of
focal distances; a celestial object database; an image
10 processing section for extracting a set of information of
each celestial object from the image of celestial object
captured by the image-capturing means; and a celestial
object identification means for identifying the celestial
object whose image has been captured, by comparing the
15 information of each celestial object extracted by the image
processing sections with the celestial object information
stored in the celestial object database. The alignment
process is executed by defining a coordinate transformation
information of a coordinate system in the astronomical
20 telescope relative to a celestial coordinate system based
on the position information of the identified celestial
object. In the automatic introduction, after the
introduction of the target celestial object, an image of
celestial object is captured, the celestial object in the
25 captured image of celestial object is identified, and the
astronomical telescope is controlled by rotating it around
two axes so that the target celestial object can be
introduced into the center of field based on the position

information for the identified celestial object. The alignment precision and the automatic introduction precision can be improved by shifting the focal distance of the image-capturing means in a step-by-step manner toward 5 the telescopic field side.